City of Newport Beach

Coastal/Bay Water Quality Citizens Advisory Committee Minutes

DATE: 10/8/09 **TIME:** 3:00 P.M. **LOCATION:** Fire Conference Room

1. Welcome/Self Introductions

Committee Members:
Chairwoman/Council Member Nancy Gardner
Council Member Mike Henn
Dennis Baker
Tom Houston
Jim Miller
Randy Seton

Guests:
Lacy Kelly, League of California Cities
Monica Mazur
Jack & Nancy Skinner

City or County Staff:
Dave Kiff, Assistant City Manager
Michael Torres, Deputy City Attorney
George Murdoch, Utilities Director
Craig Justice, Utilities Deputy Director
Dave Webb, Public Works Deputy Director
John Kappeler, Code & Water Quality Enforcement Manager
Dan Macey, Subtrade Plans Examiner, Building Dept.
Lanny Krage, Records Specialist, Building Dept.
Kim Rieff, Department Assistant

2. Approval of Previous Meeting's Minutes

No minutes were presented for approval.

3. Old Business

(a) Bay and Ocean Bacteriological Test Results

Ms. Mazur and Mr. Kappeler reviewed the latest bacti reports.

4. New Business

(a) Model Landscape Irrigation Ordinance Presentation and update on the Orange County Model Water Efficiency Landscape Ordinance

Ms. Kelly distributed a handout and presented a PowerPoint (see attached). She explained that the Orange County Division of the League of Cities worked in partnership

with Municipal Water District of Orange County to develop the Orange County Model.

Chairwoman Gardner asked staff whether it has decided to use this model for the City's model. Mr. Kappeler explained that staff presented to this committee in January 2009 a comparison of the City's current ordinance to the State's 41-page ordinance. He said staff is currently working on comparing the City's ordinance to the County's ordinance.

In response to Mr. Kiff as to how staff would adopt this ordinance if it decides to, Mr. Kappeler said there are a couple of options in the ordinance that allows the City to be flexible. Ms. Kelly explained that if the City wishes to keep its sizeable ordinance, it might wish to merge it with the "Guidelines". Discussion ensued.

In response to Mr. Seton's question about what the guidelines of 2,500 and 5,000 sq. ft. refers to, Ms. Kelly said it's per development or project. Chairwoman Gardner assured Mr. Seton that staff will be looking at this again in the future.

Council Member Henn commended the Orange County League Division and its partners for developing this document. Mr. Kiff said this was a very important role for the League of Cities because all the local cities in Orange County are facing the same struggle.

(b) Graywater Recycling

Mr. Macey talked about the new emergency graywater standards that became effective August 4, 2009. This was a result of an emergency vote in January 2009 due to the water shortage. Graywater has been in the Code since 1994. It didn't change much until 2007 when it was actually made part of the model Code. It's been rewritten considerably and allows some limited use of installations without construction permits. This may or may not impact the City. If it does, it will be due to unknown installations. It may affect Code Enforcement if there's runoff onto adjacent properties. The Utilities Department is concerned about a potable water cross-connection.

Continuing, Mr. Macey said the good news is that the Building Department has elected not to further restrict the use of graywater by an ordinance. The Building Department will accept the Code body as it is. He presented a PowerPoint (attached).

He referred to the "12 Conditions Required for a Building Permit Exemption" in the PowerPoint. Those conditions will be handed out to the public at the Building Department counter. The complex systems will require permits while the simplistic ones do not.

Mr. Baker talked about the requirements that control the water so pets won't have access to it. He also pointed out that there is a clothes washer system. Discussion ensued as to the pros and cons of simplistic vs. complex systems.

(c) Bacteriological Dry-Weather Runoff Gutter Study

Mr. Kappeler explained that he, Mr. Skinner, Ms. Mazur and some others took samples from the gutters and compared them to State standards (see attached PowerPoint).

Mr. Seton commented that there needs to be a better containment system to keep the water on the grass so it doesn't drain into the gutter. Chairwoman Gardner said the new water ordinance and landscaping ordinance will provide new tools to help. Mr. Kappeler said zero runoff is the most important message.

Mr. Baker pointed out that the City previously required residents to have drains on their property. The City is full of houses with these drains. He said he thinks a good way to resolve that issue in many cases is to have some kind of installation to capture the water and allow it to percolate before it gets to the curb. The question is how to provide an incentive to residents to take that step to correct the problem.

Mr. Skinner said the concern with the results of the study is whether the bacteria have health effects. All the illness studies done to date have used raw sewage as the source for this particular bacteria. It appears bacteria in the gutter is re-growing, and may or may not be harmful. If a human virus is present than that's what causes swimmer related illnesses. If the biofilm and re-growth are the source of all our bacteria then a lot of the regulations that are giving the City a bad reputation are based on information that's outdated. He said there was a study done in Madison, Wisconsin 20 years ago and the results were that 75% of the fecal coliform in the drain was actually coming from the gutter itself but they didn't know enough about biofilms back them. He explained why storm drains are the perfect environment.

Mr. Skinner said he took more samples for testing to the lab this morning. He thinks the results may build a link that the high bacteria numbers in the gutter are coming from biofilm slime that has developed along the bottom. He said Ms. Donna Ferguson and Mr. Joe Guzman will publish an article with the results.

Mr. Houston suggested that perhaps all the funds used for trying to manage water may not be necessary. Discussion ensued.

5. Public Comments on Non-Agenda Items

Mr. Skinner said the Regional Board has an issue as to whether the individual cities will contribute a significant amount of money to deal with the selenium problem. Chairwoman Gardner reported that Mr. Kiff had spoken to Joanne Snyder and Ms. Snyder feels more testing is needed. Mr. Webb said he met with several cities because the cities are concerned about how much money is being considered. He said at the meeting they talked about the proposed cost over the next 20 years. The attendees also inquired as to who the partners are, as well as their desire to have the County look into an overall water quality assessment property-wide for the whole region.

Mr. Baker asked whether there would be a demonstration garden at the new Civic Center. Chairwoman Gardner said she would need to ask Mr. Kiff.

In response to Mr. Houston, Mr. Murdoch reported that the average person uses about 110 gallons of water per day which also includes the landscaping.

Mr. Kappeler announced that the Coastal Cleanup Day on September 19th involved 10,279 volunteers who picked up 90,000 lbs. of trash.

Mr. Murdoch announced that the Metropolitan Water District of Orange County said they were interested in financing the *Zero Trash* program for Newport Beach.

Ms. Mazur announced that the World Ocean Conference would be held in Long Beach October 27 through October 29.

6. Topics for Future Agendas

(a) Update on Integrated Watershed Planning Efforts
(b) NPDES Annual Water Quality Report
(c) Boats US – Not all Boat Suds are Created Equal
(f) Sea Lions in Newport Harbor

Mr. Seton asked for a presentation as to where John Wayne Airport's runoff goes.

7. Set Next Meeting Date

The next meeting was set for November 12, 2009.

8. Adjournment

The meeting was adjourned at 4:38 p.m.

Orange County Model Water Efficient Landscape Ordinance

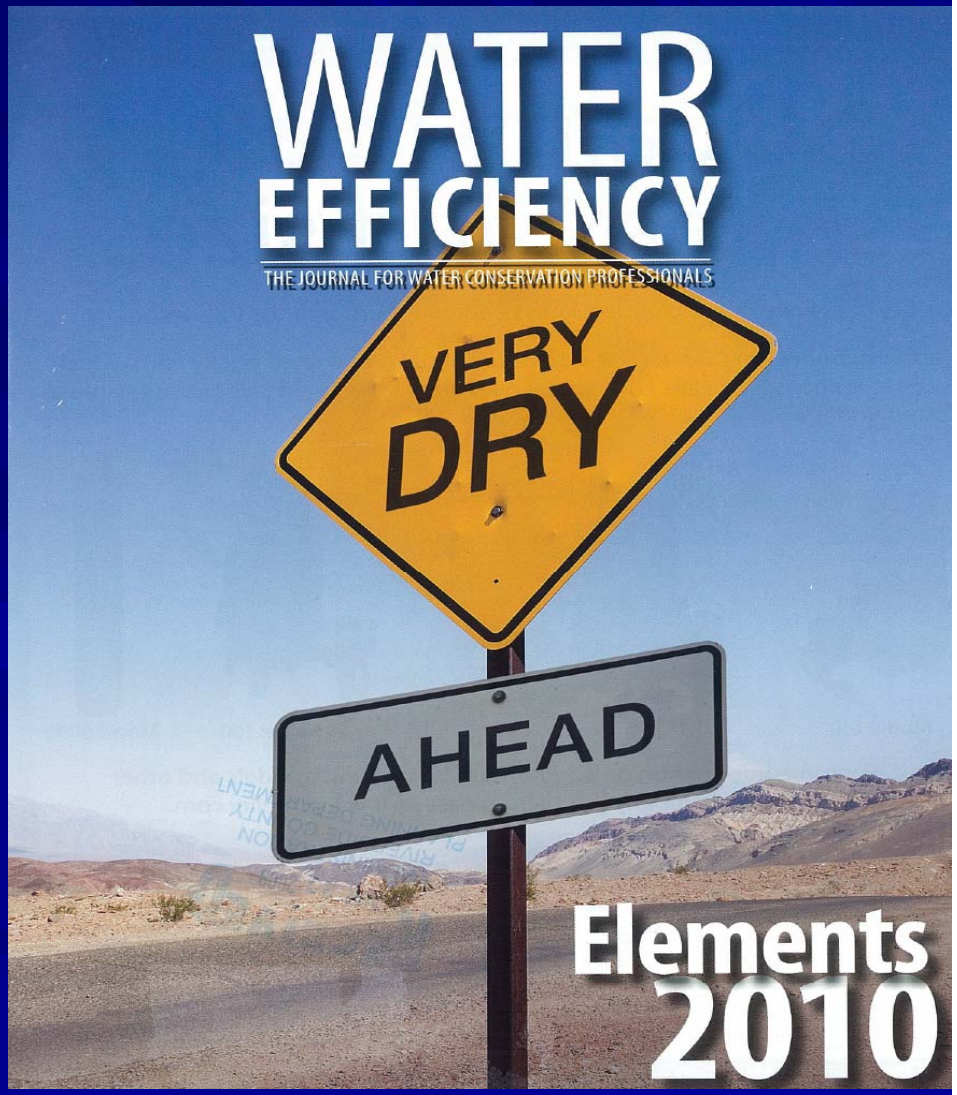
"A countywide collaboration under the leadership of the OC Division League of California Cities and MWDOC"

City of Newport Beach
Coastal / Bay Water Quality
Citizens Advisory Committee
October 8, 2009

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

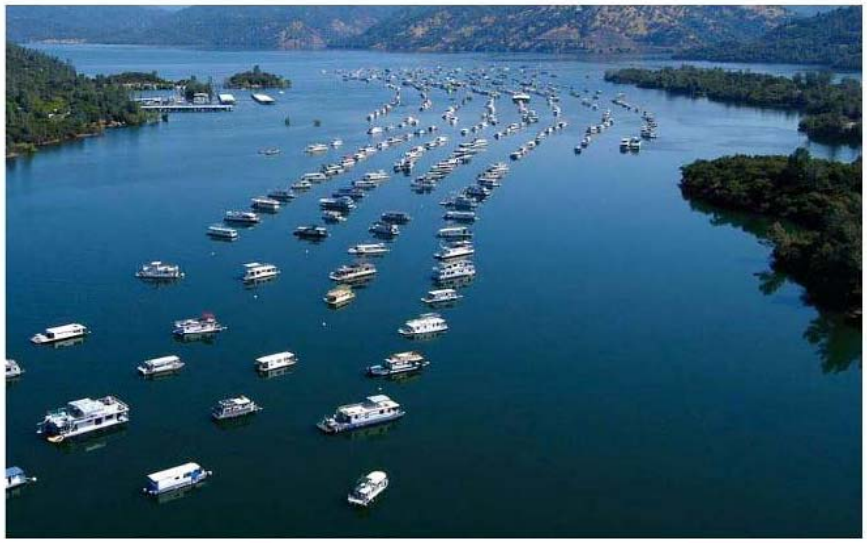
ORANGE COUNTY DIVISION
LEAGUE OF CALIFORNIA CITIES

Our Future is Here…



Lake Oroville

2005 **2008**



Lake Oroville
June 2005: 897.12 Feet Elevation - 3,492,262 Acre Feet

Lake Oroville
February 2008: 719.86 Feet Elevation - 1,412,524 Acre Feet

Diamond Valley Lake Near Hemet

2006

2008

So How Did We Get Here?

Regulatory & Natural Droughts

- **Largest court-ordered water transfer restrictions in state history – 35% loss**
- **Multiple straight years of below-average rainfall**
- **Very low snowmelt runoff – 55% of normal**
- **Over-allocation of Colorado River**

June 2008: Governor Orders Immediate Action to Address Drought

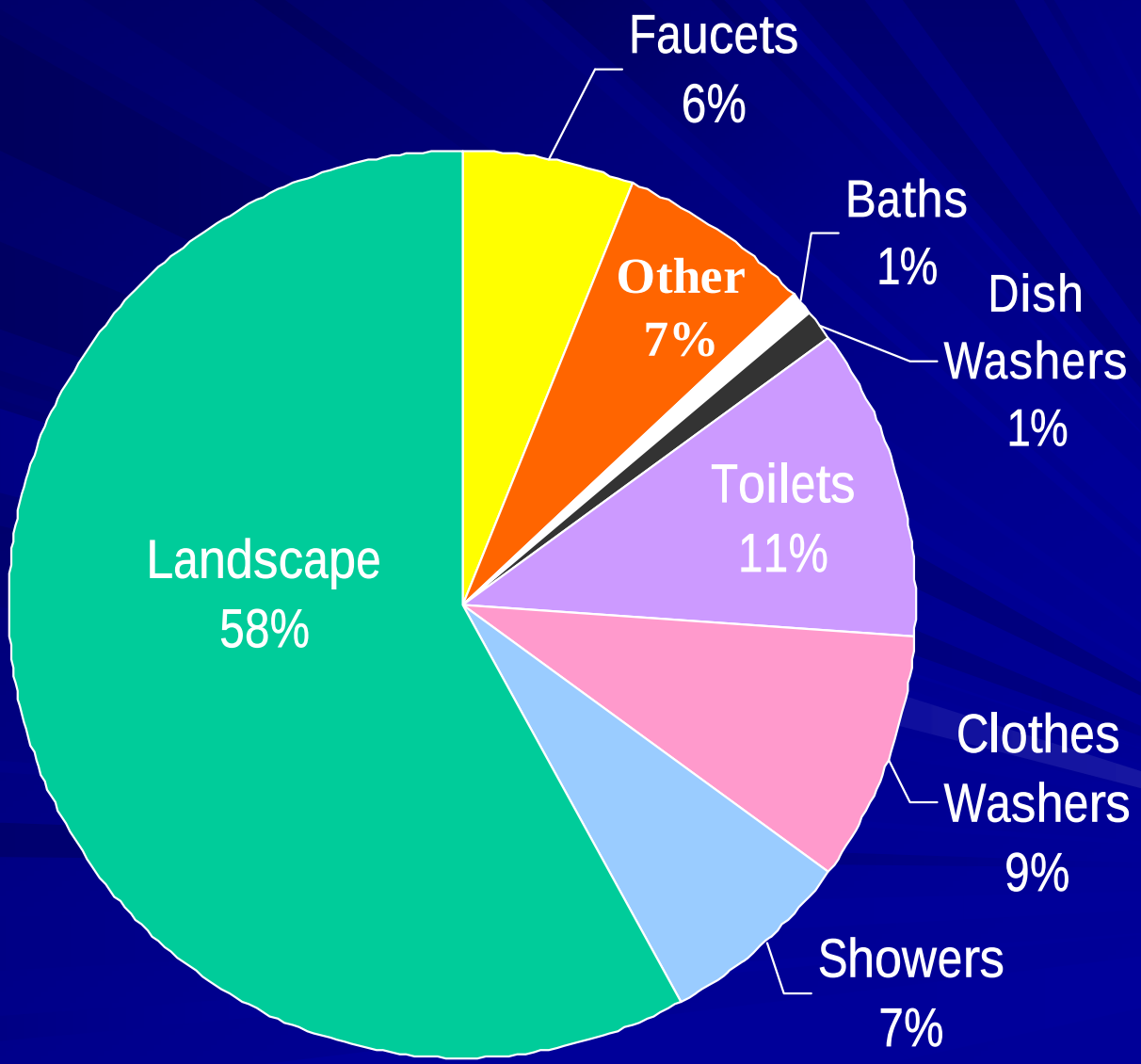
Proposed Action:

- **20% reduction goal in water use**
- **Expand water conservation**
- **Release grant funds for water infrastructure**
- **Increase water transfers to areas of demand**

Landscaping

A Major Part Of Residential Water Usage

And a MAJOR contributor to Urban Runoff!



Source: AWWARF Residential End Uses of Water, 1999

State Legislation + Landscape Irrigation

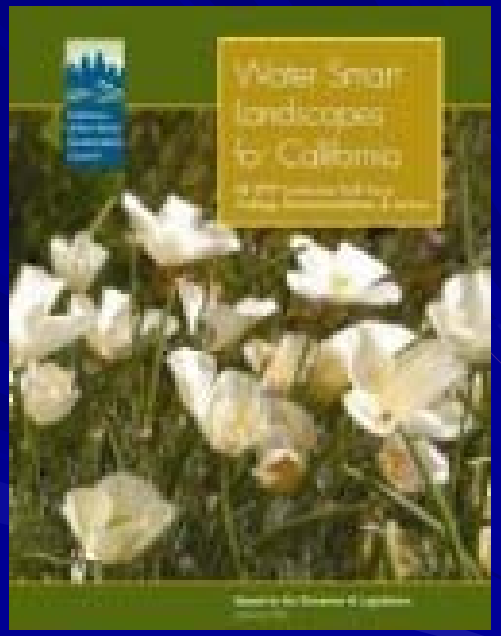
-A Brief History-

AB 325 – Enacted in 1992

- **Required the adoption of a water efficient landscape ordinance**
- **Established planning method for landscape water conservation**
- **Did <u>not</u> require agencies to adopt an ordinance that was "at least as effective" as the state model**

AB 2717 – Enacted in 2004

- **Established a stakeholder Task Force to formulate recommendations to improve irrigation efficiency in new and existing landscapes**



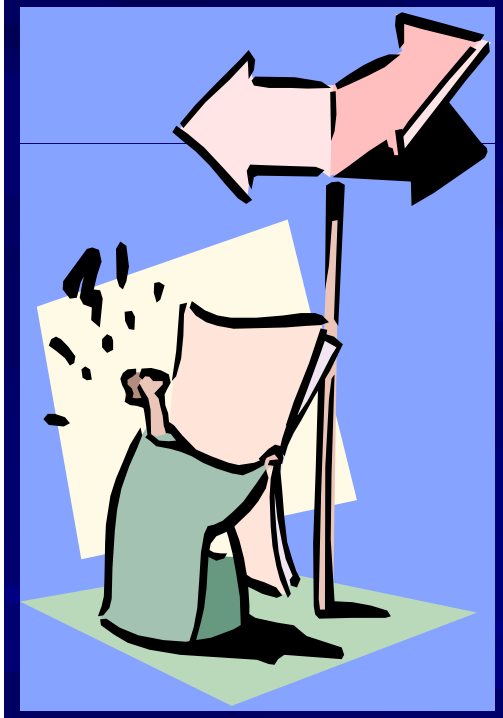
- **Task Force published 43 recommendations in a report submitted to the legislature on December 1, 2005**

- **Recommendations could save 0.6 – 1.0 million acre feet annually**

AB1881 – Enacted in 2006

- **Requires local agencies to adopt the State Model Ord. or a local ordinance that is "at least as effective as" the State Model Ordinance by January 1, 2010**
- **Evapotranspiration factor reduced to 0.7**
- **DWR is required to report back to the Legislature by 2011 on status of local agency ordinances**

Local Agency Options



Option 1: Do nothing - State Model Water Efficient Landscape Ordinance takes effect in jurisdiction

- State Model = 41 Pages

Option 2: Adopt own Ordinance and findings that Ordinance is "at least as effective as" the State's Model Ordinance

Option 3: Adopt the Orange County Model Water Efficient Landscape Ordinance and findings to meet the "at least as effective as" requirement

- **OC Model = 7 pages**
- **Saves time and money**

OC Model Water Efficient Landscape Ordinance

- 3 Large Group Stakeholder Meeting
- 5 Technical Drafting Committee Meetings
- Participation Process Open to Public

Participants: OC Division League of Cities Members, City Council Members, City and County Planners, Water Agency Directors and Staff, Building Industry Association, City Attorneys, OC Fire Authority and City Fire Departments, Parks & Recreation, Green Industry

Guiding Principles

- To protect **local control** and mitigate the creation of increased layers of government and oversight.
- To ensure as much **simplicity, efficiency** and **flexibility** as possible.
- To provide for as much **consistency** among OC cities as possible, mitigating the negative impacts that many different ordinances would have on the recovery of the building industry and economy in general
- To minimize the complexity and cost of compliance

Goals of OC Model Water Efficient Landscape Ordinance

- Meet requirements of AB1881
- Promote water use efficiency on future and existing landscapes
- Promote regional consistency
- Incorporate Self-Certification Process
- Eliminate duplicative tasks
- Create succinct ordinance with separate technical guidelines section
- Create a sample staff report to assist City's in Ordinance adoption/resolution process
- Enhance future water supply reliability

Ordinance and Guidelines

- OC Model Water Efficient Landscape Ordinance - establishes the legal criteria and Maximum Applied Water Allowance (MAWA) – The What Component
- Guidelines - a technical document that explains how to achieve the standards established in the Model Ordinance – The How Component
  - A separate Guidelines document allows for flexibility to incorporate future technical innovations in irrigation without having to change the Ordinance

OC Model Ordinance Components

Required By State

Applicability:

- New homeowner installed or hired landscapes greater than or equal to 5,000 ft^2
- New & rehabilitated public agency, private development, and developer installed single and multi family landscape projects greater than or equal to 2,500 ft^2

MAWA:

- For landscape installation or rehabilitation MAWA is calculated using ET Adjustment factor of 0.7
- For existing landscapes MAWA is calculated using ET Adjustment factor of 0.8
- For Special Landscape Areas MAWA is calculated using ET Adjustment Factor of 1.0

Guidelines

Submittal Requirements:

- Landscape Documentation Package

Certificate of Completion:

- Obtained through a Certificate of Use or a *Permit* Final
- Legal Language Template for Self Certification Process
- CEQA options

Appendices:

- Reference ETo Table
- Water Efficient Landscape Worksheet Template
- Definitions

Sample Staff Report

Provides local agency staff with information to develop their staff report including:

- Technical and legal background information
- Guiding Principles for OC Model
- Justifications for altering State Model
- Timeline for Ordinance completion
- CEQA options

Exemptions/Considerations

Exemptions

- Landscapes less than 2,500 ft^2
- Homeowner installed or hired projects less than 5,000 ft^2
- Projects that do not require a building or landscape permit, plan check or design review
- Registered historic sites
- Ecological restoration projects
- Public botanic gardens & arboretums

Unique Considerations

- Cemeteries

Model Ordinance Process Timeline

Orange County's Water Conservation Resources

- More conservation and water use efficiency information is available at:
  - http://www.water.ca.gov/wateruseefficiency/landscapeordinance/
  - www.bewaterwise.com
  - www.mwdoc.com

- For further assistance please call;
  - Municipal Water District of Orange County (MWDOC) at (714) 593-5008
  - Orange County Division, League of California Cities at (714) 972-0077

COPIES OF THE FOLLOWING DOCUMENTS:

- The OC Model Water Efficiency Landscape Ordinance
- Guidelines for Ordinance Implementation
- Sample Staff Report (customize to city)
- CEQA Options (memorandum outlining CEQA options)
- PowerPoint Presentation (history of AB 1881)

Can be found on our website: www.occities.org and click the Resources tab.

Emergency Graywater Standards

Effective August 4, 2009

2007 California Plumbing Code, Chapter 16A
Nonpotable Water Reuse Systems

Clothes Washer and/or Single Fixture Systems

Introduction

- Chapter 16A establishes minimum requirements for the installation of graywater systems in occupancies regulated by the Department of Housing and Community Development (HCD)

- This chapter contains provisions which allow the installation of limited types of graywater systems to be installed without a construction permit, effective 8-4-09

Nonpotable Water Reuse Systems

Intent

1. Conserve water by facilitating greater reuse of laundry, shower lavatory and similar sources of discharge for irrigation and (indoor use when treated by an on-site water treatment system approved by the enforcing agency).

2. Reduce the number of non-compliant graywater systems by making legal compliance easily achievable.

3. Provide guidance for avoiding potentially unhealthful conditions.

4. Provide an alternative way to relieve stress on a private sewage disposal system by diverting the graywater.

NonPotable Water Reuse Systems

1601A.0 Definitions

Clothes Washer System
A graywater system utilizing only a single domestic clothes washing machine in a one or two-family dwelling.

Graywater
Includes but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

Single Fixture System
A graywater system collecting graywater from one plumbing fixture or a single drain which collects graywater from more than one fixture in a one or two-family dwelling.

Potable Water
Water that is satisfactory for drinking, culinary, and domestic purposes, meeting the requirement of the health authority.

NonPotable Water Reuse Systems

Types of System	Permit Requirements
Clothes Washer System and/or a Single Fixture System	No construction permit required if conditions in Section 1603A.1.1 are met.
Simple System - Discharge capacity max 250 gallons per day	Permit and plans required unless exempted by Enforcing agency.
Complex System - Discharge capacity more than 250 gallons per day	Permit and plans required unless exempted by Enforcing Agency
Treated Graywater -	Permit and plans required unless exempted by Enforcing Agency.

NonPotable Water Reuse Systems

1603A.0 Permit

A written construction permit shall be from the Enforcing Agency prior to the erection, construction, reconstruction, installation, relocation or alteration of any graywater system that requires a permit.

1603A.1 System Requirements

1603A.1.1 Clothes Washer System and/or Single Fixture system. A clothes washer system and/or a single fixture system in compliance with all of the following is exempt from the construction permit.

NonPotable Water Reuse Systems

12 Conditions Required for a Building Permit Exemption

1. If required, notification has been provided to the Enforcing Agency regarding the proposed location and installation of a graywater irrigation or disposal system.
2. The design shall allow the user to direct the flow to the irrigation or disposal field or the building sewer. The direction control of the graywater shall be clearly labeled and readily accessible to the user.
3. The installation, change, alteration or repair of the system does not include a potable water connection or a pump and does not affect other building, plumbing, electrical or mechanical components including structural features, egress, fire-life safety, sanitation, potable water supply piping or accessibility.
4. The graywater shall be contained on the site where it is generated.
5. Graywater shall be directed to and contained within an irrigation or disposal field.
6. Ponding or runoff is prohibited and shall be considered a nuisance.
7. Graywater may be released above the ground surface provide at least two (2) inches (51 mm) of mulch, rock, or soil, or a solid shield covers the release point. Other methods which provide equivalent separation are also acceptable.

NonPotable Water Reuse Systems

12 Conditions Required for a Building Permit Exemption (continued)

8. Graywater systems shall be designed to minimize contact with humans and domestic pets.
9. Water used to wash diapers or similarly soiled or infectious garments shall not be used and shall be diverted to the building sewer.
10. Graywater shall not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from home photo labs or similar hobbyist or home occupational activities.
11. Exemption from construction permit requirements of this code shall not be deemed to grant authorization for any graywater system to be installed in a manner that violates other provisions of this code or any other laws or ordinances of the Enforcing Agency.
12. An operation and maintenance manual shall be provided. Directions shall indicate the manual is to remain with the building throughout the life of the system and indicate that upon change of ownership or occupancy, the new owner or tenant shall be notified the structure contains a graywater system.

NonPotable Water Reuse Systems

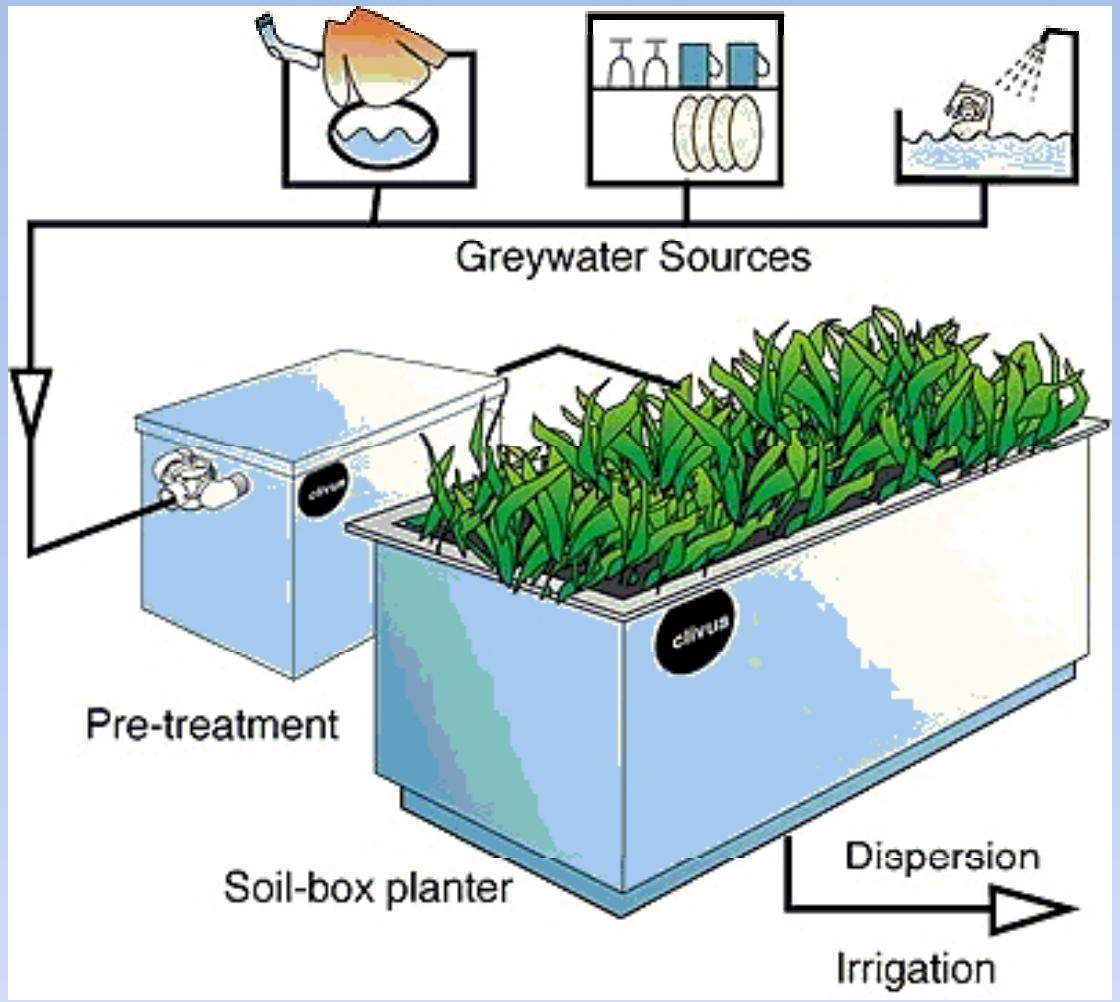
1601A.0 Graywater Systems – General

The provisions of this part shall apply to the construction, alteration, discharge, use, and repair of graywater systems. The graywater system shall not be connected to any potable water system without an air gap or other physical device which prevents the backflow and shall not cause the ponding or runoff of graywater.

NonPotable Water Reuse Systems

1601A.0 Graywater Systems – General (continued)

No *construction* permit for any graywater system shall be issued until a plot plan with appropriate data satisfactory to the Enforcing Agency has been submitted and approved. When there is insufficient lot area or inappropriate soil conditions to prevent the ponding or runoff of the graywater, as determined by the Enforcing Agency, no graywater system shall be allowed.



Graywater Pretreatment

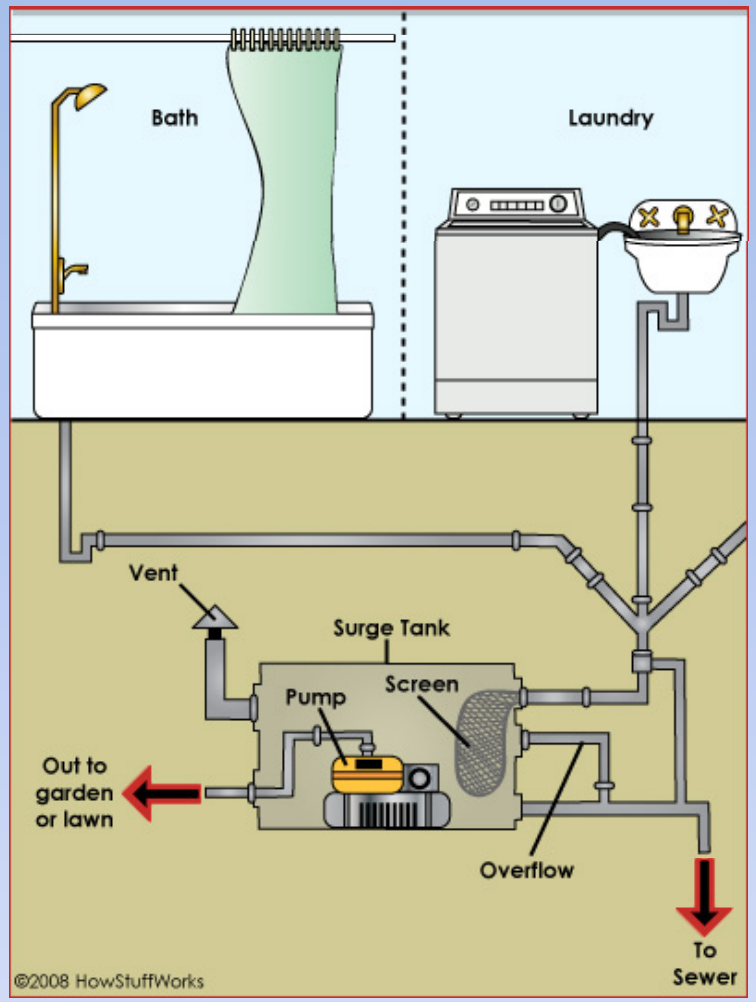
Plans and Permit Required

Graywater Pump

Plans and Permit Required

<u>Non Compliant – Requires Pretreatment</u>

Plans and Permit Required

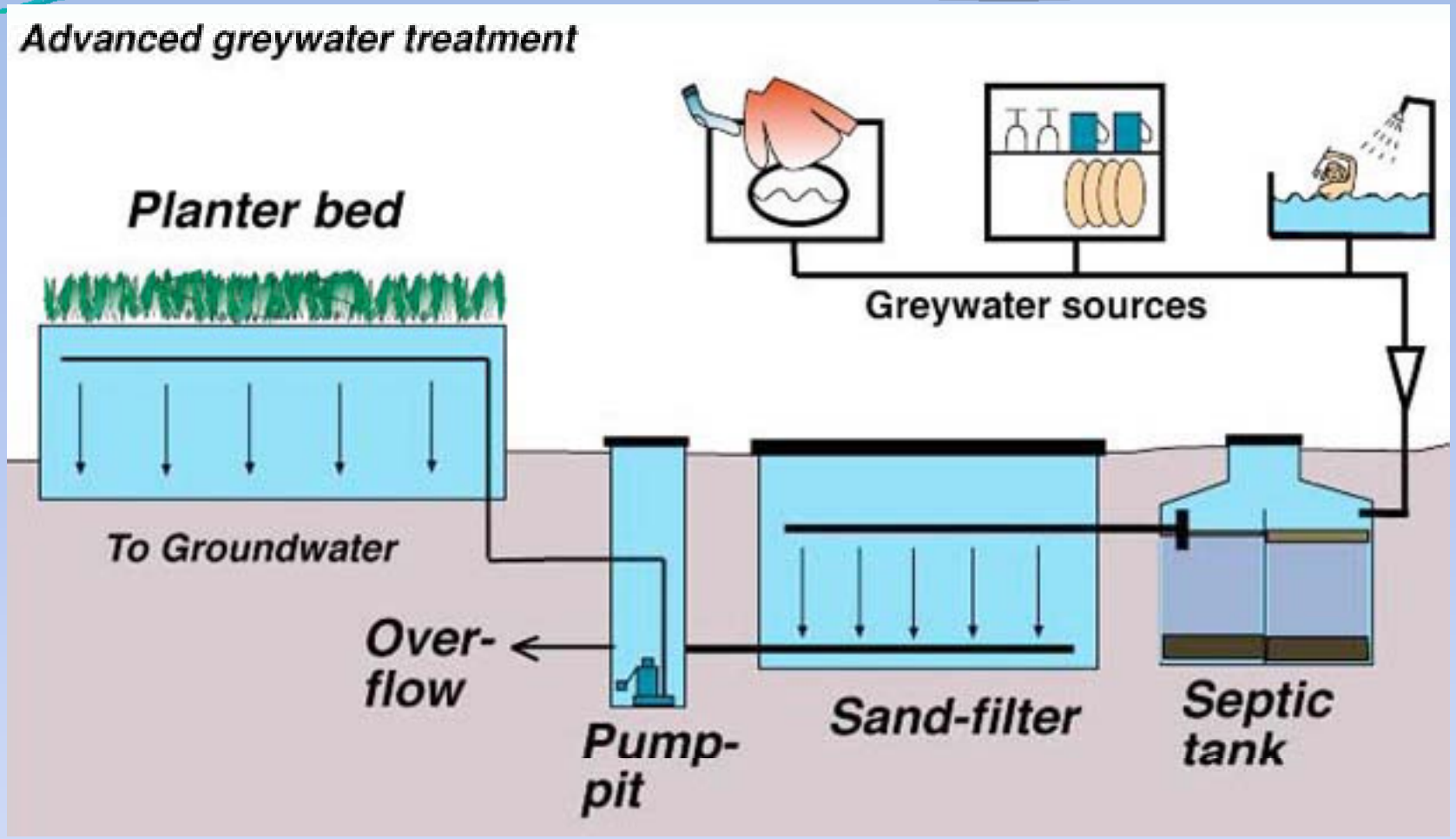


Graywater Tank and Pump

Plans and Permit Required

<u>Non Compliant – Requires Pretreatment</u>

Plans and Permit Required



Graywater Tank, Filter, and Pump

Plans and Permit Required

?

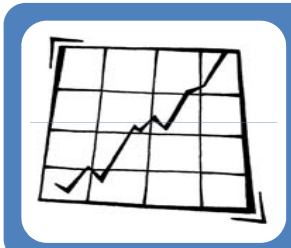
Dry-Weather Runoff Water Quality Gutter Study

Coastal/Bay Water Quality
Citizens Advisory Committee

October 8th, 2009

The Mission

Sample and Test Dry-Weather Runoff Water Quality in Street Gutters (2 Separate Phases)



Evaluate the Sampling Results and Compare Against Current Water Quality Standards (AB411)

Conclusions

The Team

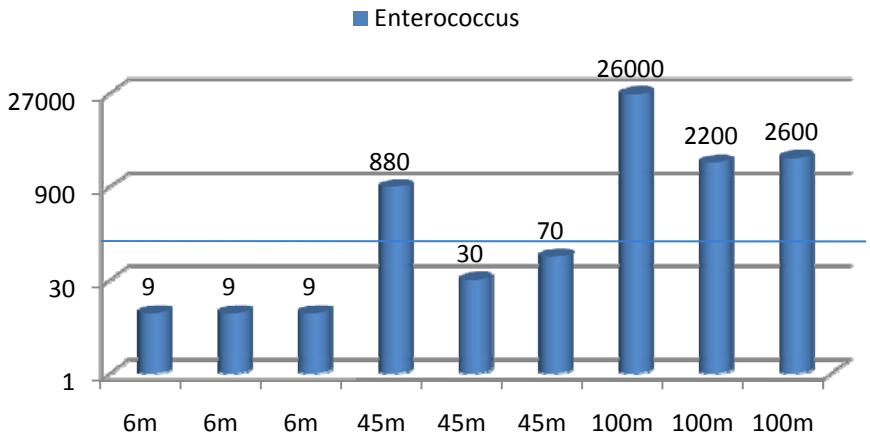
Study Area

- 300’ of Street Gutter
- 4 Sampling Locations (Hose, 6m, 45m and 100m)
- Sampled (3) Pulses of Water
- Repeat Study After Street Sweeping

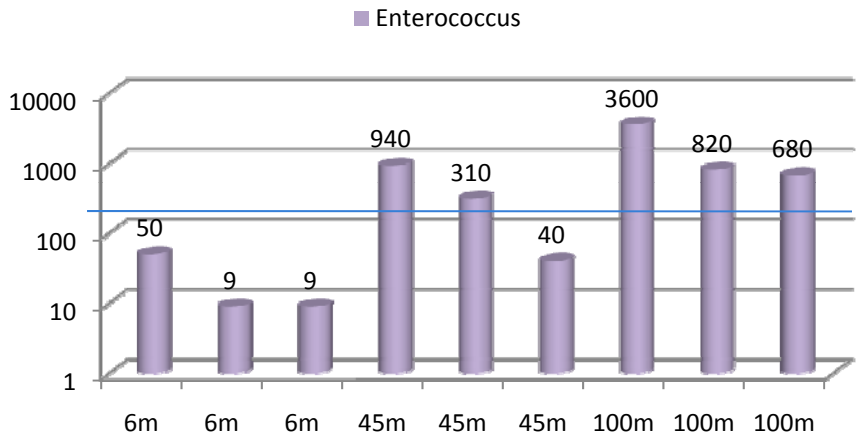
Study Area (Phase 1)

Water Quality Results

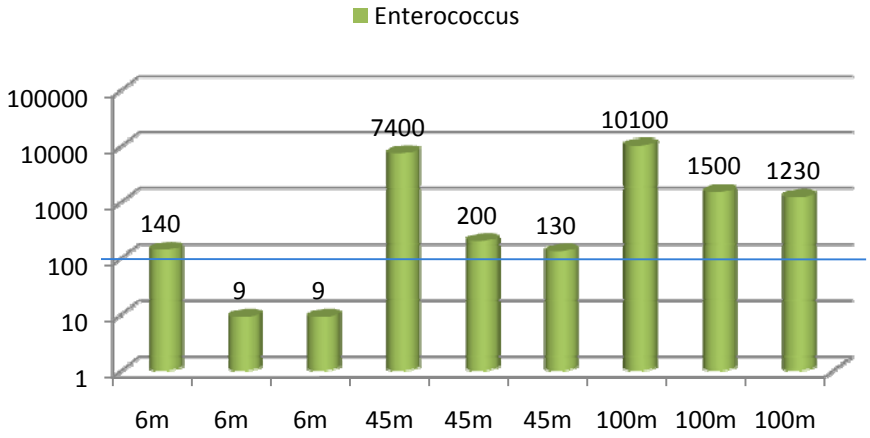
Pulse 1



Pulse 2 (+ 15 Minutes)



Pulse 3 (+ 3 Hours)

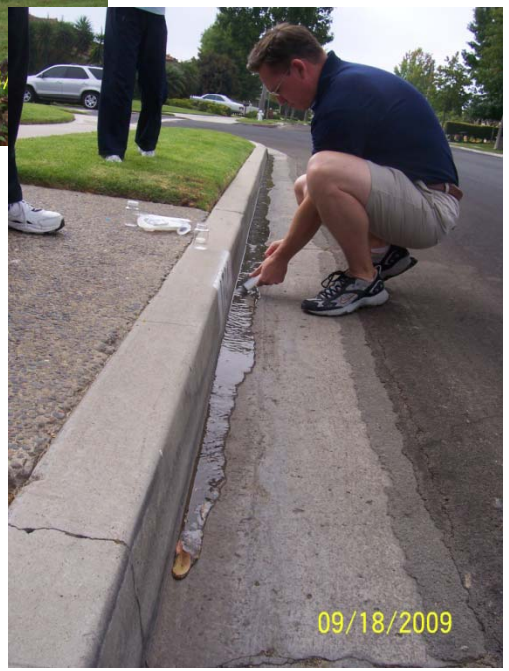


Enterococcus:

State Standard: 104 CFU/100ml

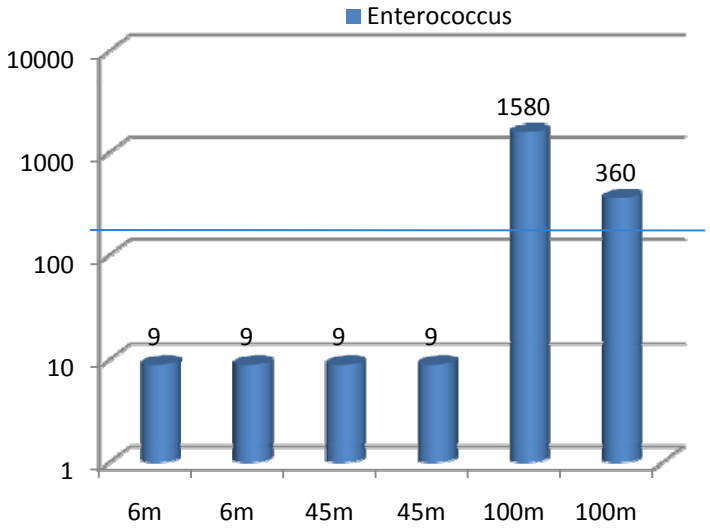
Hose: 9 CFU/100ml

Study Area (Phase 2)

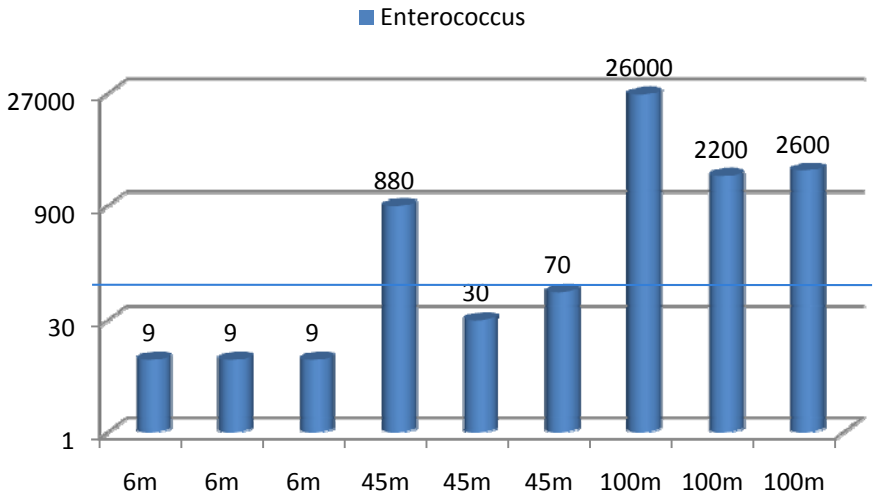


Water Quality Results

Phase II (Street Sweeper)



Phase I



Enterococcus:

State Standard: 104 CFU/100ml

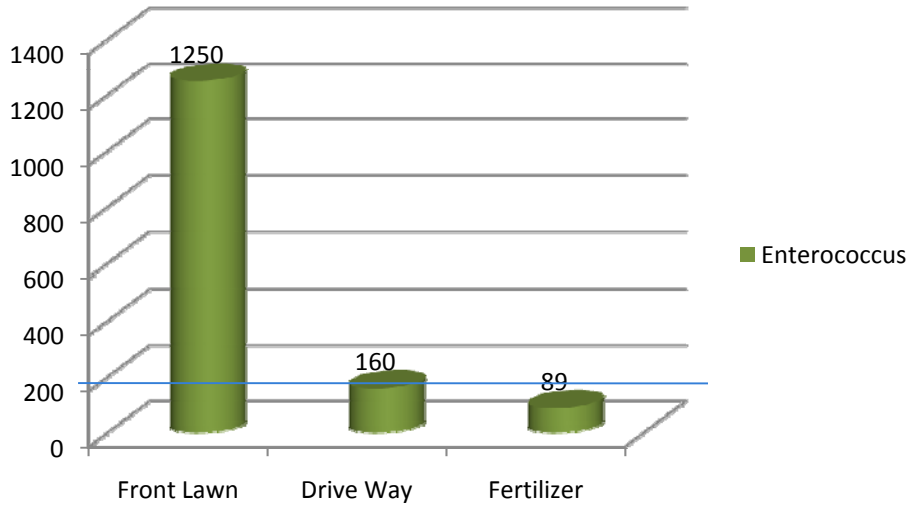
Hose: 9 CFU/100ml

Street Sweeper: 30 CFU/100ml

Study Area (Phase 2)

Water Quality Results

Phase II (Additional Tests)



Enterococcus:

State Standard: 104 CFU/100ml

Hose: 9 CFU/100ml

Budget

Conclusions

- The majority our Phase I samples exceeded the state water quality standards for **Enterococcus** and **Fecal Coliform**

- Street sweeping appears to be beneficial in reducing the bacteria load from street gutters

- Should we be looking at “good” -vs- “bad” bacteria?

- Small amounts of ponding water in the gutter are problematic

- Public Education – Waterwise Episode